USDA United States Department of Agriculture

Natural Resources Conservation Service

Idaho Basin Outlook Report April 1, 1998

Basin Outlook Reports
and
Federal - State - Private
Cooperative Snow Surveys

For more water supply and resource management information, contact:

Your local Natural Resources Conservation Service Office
or
Natural Resources Conservation Service
Snow Surveys
9173 West Barnes Drive, Suite C
Boise, ID 83709
(208) 378-5740

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

APRIL 1, 1998

SUMMARY

Water year 1998 got off to a slow start, but is now looking like a normal or slightly below normal year for Idaho. Water supplies should be adequate for the numerous and diverse water users across the state, even in northern Idaho which has the lowest snowpacks in the state, two-thirds of average. Early forecasts of El Nino bringing below normal winter precipitation and summer streamflows in northern Idaho are proving to be true. Water users across southern Idaho will have an adequate water supply to meet the numerous and diverse needs. Good reservoir carryover from last year will help overcome any deficits in streams that are forecast at 70-90% of average across most of the state.

SNOWPACK

March brought a little bit of everything: warm temperatures in mid-March followed by rain falling as high 8,000 feet in elevation and changing to snow by month's end. Low elevation snowpacks started melting across most of Idaho, a week or two earlier than normal. Snowpacks in the higher elevations continued accumulating during the month, and the snow is quickly becoming ripe to start melting. The lowest snowpacks in the state are in the Coeur d'Alene, St. Joe and Clearwater river basins at 68% of average. Snowpacks are 75-90% of average across the central Idaho mountains. In the upper Snake, Bear River and southwestern Idaho basins snowpacks are 85-95% of average. The only areas reporting above average snowpacks are in the Portneuf, Willow, Malad, Raft, Goose and Trapper basins at 105-115% of average. This year's snowpack is one-half to two-thirds of last year's April 1 snowpack.

PRECIPITATION

March precipitation was variable across the state ranging from a high of 113% in the upper Snake River basin to a low of about 75% of average in the Clearwater, Boise, Wood and Lost River basins. Precipitation south of the Snake River was 100% of average for the month. Warm and dry weather in mid-March allowed farmers to start planting grains and working their fields; however, the late March snow and rain that fell across southern Idaho is making it difficult for them to finish planting. Elsewhere in the state, precipitation was 84% of average in the Salmon basin and near average in the Panhandle, Payette and Bear basins. Water year to date precipitation ranges from a low of 81% of average in the Clearwater River basin to 96% in the Bear River basin. Precipitation this water year is only 60-70% of the amount that fell last year by this date. The long range weather forecasts provided by the National Weather Service are for above normal temperatures for April, May and June. The outlook for precipitation is for normal across the state in April and trending toward above normal in the western half of the state in May and June.

RESERVOIRS

Reservoir storage is in good shape across the state. Even with below normal runoff forecast for most of the state, all major reservoirs are projected to fill with the possible exception of Dworshak Reservoir which may fill or come close to filling depending upon timing of runoff and releases for fish. Salmon Falls and Oakley reservoirs are not expected to fill, and seldom do fill, but will provide an adequate water supply for their users. Idaho irrigators should a have a full water supply with the possible exception of the Big Lost and Little Lost irrigators where supplies could be tight if the actual runoff is below the Most Probable Forecast (50% Chance of Exceeding).

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive, and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Streamflow forecasts call for below normal runoff across nearly the entire state, but after last year's record runoff in some areas this may be a sign of relief. Streamflow forecasts are lowest in the northern part of the state with most streams in the 65-75% of average range. Water shortages, however, do not typically occur in northern Idaho, so water supplies should be adequate for most users. Across central and southern Idaho, forecasts range from 80-90% of average except the Big Wood below Magic Dam (65%), Salmon Falls Creek (74%) and Owyhee near Rome (72%). Southern Idaho water users should have an adequate supply for the numerous and diverse uses. Instream water users will experience below normal runoff volumes. Warm temperatures and rain in March brought a rise in streamflow in the Owyhee and other low elevation basins across southern Idaho. Streamflows in March were 80-120% of average across the state. There is still the potential for high peak flows this spring, but the duration of high flows will be much less than last year. Spring temperatures and precipitation will determine when the snow starts melting and the timing and magnitude of streamflow peaks.

RECREATION

With the mountain snowpack and streamflow forecasts in the 70-90% of average range across most of the state and good reservoir storage, water-based recreation opportunities should be excellent in Idaho this spring and summer. All major reservoirs are expected to fill and will provide excellent and early reservoir recreational opportunities. River runners will be able to put on the river somewhat earlier this year (if they haven't already). There is still the potential for high peak flows. Spring precipitation and air temperatures will determine the timing and magnitude of peak flows, but the duration of high water will be much shorter than last year. This could actually be a benefit for whitewater enthusiasts due to the much lower probability of dangerous or prohibitive high flows which kept some rivers unrunable for a few weeks last season!

DATA NETWORK OPTIMIZATION

Analysis of the data collection network is an ongoing process based on a number of considerations. Data sites are added, discontinued or automated (with SNOTEL equipment) depending on some or all of the following factors: importance for streamflow forecasting; relationship to nearby sites concerning aspect, elevation, snow accumulation and ablation (melting) patterns; cost efficiency of obtaining timely or consistent measurements; safety concerns in obtaining measurements; as well as other resource management related issues (recreation, game management, local importance to name a few). Over the last few years we installed new snow courses near Sandpoint, Weiser, Mountain Home, and Ketchum (new SNOTEL site) and installed SNOTEL sites at existing snow courses near Salmon and Mountain Home. **This summer we are proposing to discontinue measurements at four snow courses pending further analysis: Below Roland (Coeur d'Alene basin), Granite Peak (St. Joe basin), Buck Meadows (Clearwater basin), and Road Creek (Boise basin), sites currently are measured only once a year. Public comments about this proposed action should be addressed to Idaho Snow Surveys no later than July 15, 1998.**

IDAHO SURFACE WATER SUPPLY INDEX (SWSI)
As of April 1, 1998

The Surface Water Supply Index (SWSI) is predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

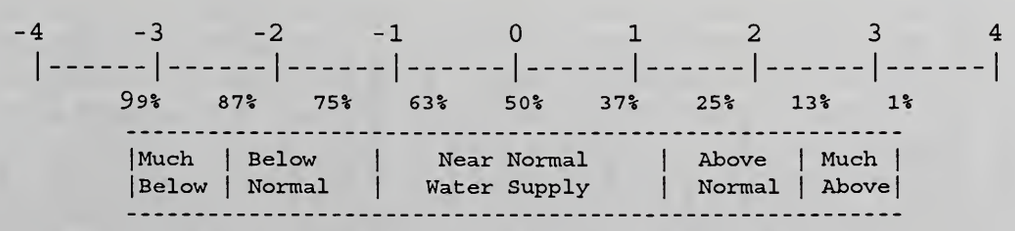
SWSI values are published January through May, and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

The following agencies and cooperators provide assistance to the Natural Resources Conservation Service in the preparation of the Surface Water Supply Index for Idaho:

US Department of Commerce, National Weather Service
US Bureau of Reclamation
Idaho Water Users Association
US Army Corps of Engineers
Idaho Department of Water Recourses
PacifiCorp

BASIN or REGION	*SWSI Value*	*Recent Years With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	-2.8	1988	NA
CLEARWATER	-2.0	1988	NA
SALMON	-0.7	1981	NA
WEISER	-1.4	1981, 85	NA
PAYETTE	0.0	1981	NA
BOISE	0.0	1993	-2.6
BIG WOOD	-0.4	1985, 93	-1.4
LITTLE WOOD	-0.1	1985, 76	-2.1
BIG LOST	-0.6	1985, 93	-0.8
LITTLE LOST	-0.3	1990	0.0
HENRYS FORK	-0.1	1989	-3.3
SNAKE (AMERICAN FALLS)	1.3	1980	-2.0
OAKLEY	1.9	1985, 79	0.0
SALMON FALLS	2.0	1982	0.0
BRUNEAU	-1.2	1989	NA
OWYHEE	0.2	1995	NA
BEAR RIVER	-0.4	1987	-3.8

SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION



Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply", represents three SWSI units and would be expected to occur about one third (36%) of the time.

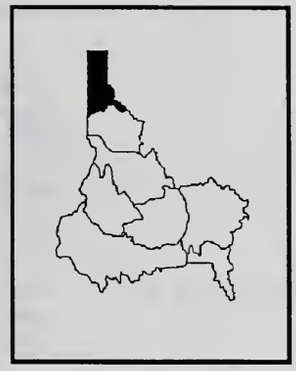
BASIN-WIDE SNOWPACK SUMMARY

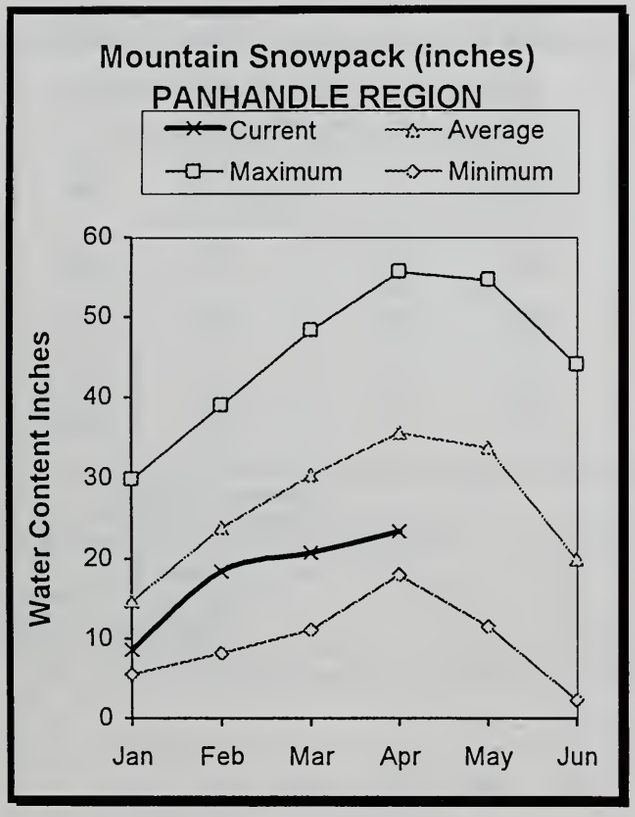
APRIL 1998

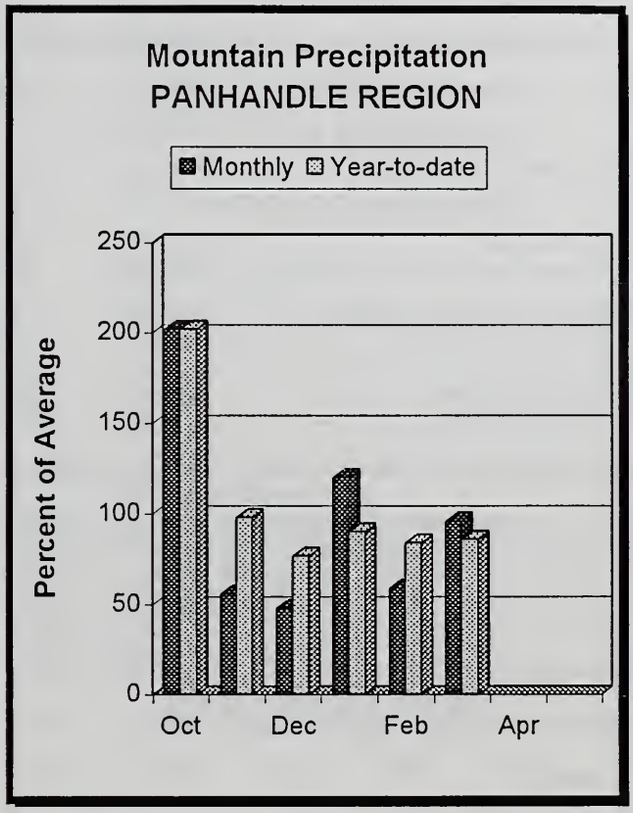
BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
PANHANDLE REGION		
Kootenai ab Bonners Ferry	53%	75%
Moyie River	53%	67%
Priest River	57%	85%
Pend Oreille River	50%	73%
Rathdrum Creek	49%	89%
Hayden Lake	45%	98%
Coeur d'Alene River	45%	69%
St. Joe River	45%	68%
Spokane River	45%	72%
Palouse River	37%	60%
CLEARWATER RIVER BASIN		
North Fork Clearwater	43%	66%
Lochsa River	47%	69%
Selway River	49%	73%
Clearwater Basin Total	45%	68%
SALMON RIVER BASIN		
Salmon River ab Salmon	55%	79%
Lemhi River	63%	81%
Middle Fork Salmon River	57%	78%
South Fork Salmon River	61%	82%
Little Salmon River	67%	83%
Salmon Basin Total	59%	80%
WEISER, PAYETTE, BOISE RIVER BASINS		
Mann Creek	107%	101%
Weiser River	87%	91%
North Fork Payette	68%	87%
South Fork Payette	61%	80%
Payette Basin Total	67%	86%
Middle & North Fork Boise	56%	82%
South Fork Boise River	64%	87%
Mores Creek	66%	95%
Boise Basin Total	64%	87%
Canyon Creek	163%	100%

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
WOOD AND LOST RIVER BASINS		
Big Wood ab Magic	55%	83%
Camas Creek	82%	96%
Big Wood Basin Total	60%	86%
Little Wood River	64%	96%
Fish Creek	58%	76%
Big Lost River	56%	84%
Little Lost River	58%	76%
UPPER SNAKE RIVER BASIN		
Birch-Medicine Lodge Creeks	67%	97%
Camas-Beaver Creeks	78%	92%
Henrys Fork-Falls River	55%	88%
Teton River	60%	96%
Snake above Jackson Lake	58%	92%
Gros Ventre River	66%	97%
Hoback River	57%	84%
Greys River	60%	88%
Salt River	69%	98%
Snake above Palisades	60%	93%
Willow Creek	65%	114%
Blackfoot River	67%	98%
Portneuf River	78%	122%
Snake abv American Falls Resv	63%	98%
SOUTHSIDE SNAKE RIVER BASINS		
Raft River	86%	119%
Goose-Trapper Creeks	81%	109%
Salmon Falls Creek	77%	86%
Bruneau River	82%	89%
Owyhee Basin Total	93%	86%
BEAR RIVER BASIN		
Smiths & Thomas Forks	68%	92%
Bear River ab WY-ID line	70%	89%
Montpelier Creek	62%	83%
Mink Creek	70%	98%
Cub River	68%	103%
Bear River ab ID-UT line	69%	93%
Malad River	81%	103%

PANHANDLE REGION
APRIL 1, 1998







WATER SUPPLY OUTLOOK

Near normal precipitation fell in March which kept snowpack percentages about the same or slightly less than a month ago. Precipitation for the water year is 86% of average. Low elevation snowpacks are starting to melt, while higher elevation sites continued increasing in snow water during March. Overall, the Panhandle Region snowpack is 66% of average and contains about half the amount of snow water as last year at this time. The snowpack is about 75% of average in the Kootenai River and Pend Oreille river basins while the Coeur d'Alene and St. Joe's snowpack is 68% and near the lowest in the state. Storage in Pend Oreille, Priest and Coeur d'Alene lakes is above average for this time of year around 110% of average. Streamflow forecasts call for below normal runoff which is typical during El Nino years. Streamflow projections range from 65-75% of average for most northern Idaho streams. Runoff volumes will be below normal but should still be adequate for water users this summer.

PANHANDLE REGION
Streamflow Forecasts - April 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	APR-JUN	3370	4130	4475	79	4820	5580	5701
	APR-JUL	4315	5261	5690	79	6119	7065	7199
	APR-SEP	4960	6047	6540	79	7033	8120	8275
CLARK FK at Whitehorse Rpds (1,2)	APR-JUN	4880	6293	6935	69	7577	8990	10050
	APR-JUL	5680	7337	8090	69	8843	10500	11730
	APR-SEP	6248	8072	8900	69	9728	11552	12910
PEND OREILLE Lake Inflow (1,2)	APR-JUN	5355	7078	7860	69	8642	10365	11390
	APR-JUL	6398	8222	9050	69	9878	11702	13150
	APR-SEP	6988	8984	9890	69	10796	12792	14370
PRIEST nr Priest River (1,2)	APR-JUL	378	520	585	72	650	792	814
	APR-SEP	404	556	625	72	694	846	868
COEUR D'ALENE at Enaville	APR-JUL	417	499	555	72	611	693	770
	APR-SEP	442	527	585	72	643	728	809
ST.JOE at Calder	APR-JUL	588	690	760	65	830	932	1169
	APR-SEP	622	728	800	65	872	978	1237
SPOKANE near Post Falls (2)	APR-JUL	1239	1502	1680	64	1858	2121	2633
	APR-SEP	1288	1557	1740	64	1923	2192	2730
SPOKANE at Long Lake	APR-JUL	1373	1663	1860	63	2057	2347	2936
	APR-SEP	1539	1840	2044	65	2248	2549	3159

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2324.0	1426.0	2046.0
FLATHEAD LAKE	1791.0	603.1	870.2	751.9
NOXON RAPIDS	335.0	326.4	302.0	231.3
PEND OREILLE	1561.3	898.6	901.2	813.7
COEUR D'ALENE	238.5	190.5	307.3	170.1
PRIEST LAKE	119.3	65.0	83.0	61.2

PANHANDLE REGION
Watershed Snowpack Analysis - April 1, 1998

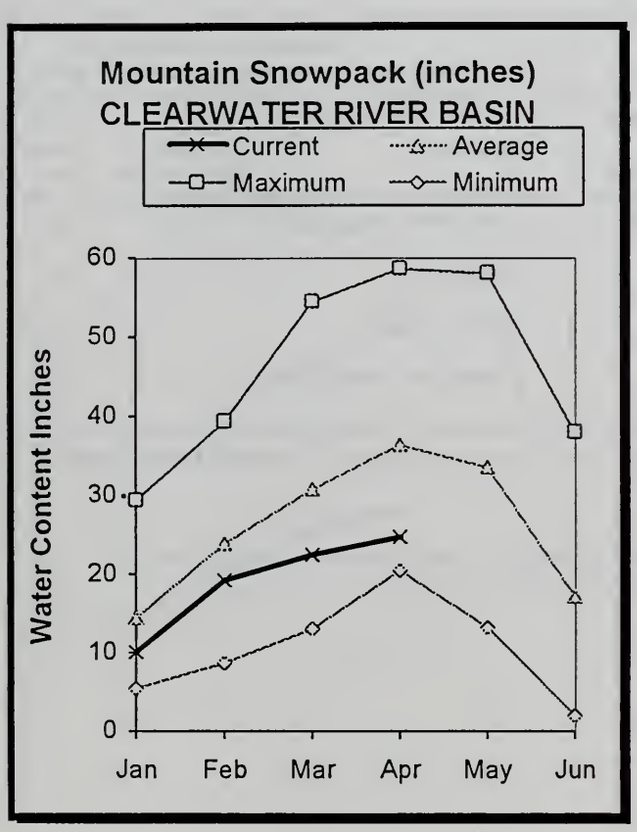
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	39	53	75
Moyie River	3	53	67
Priest River	5	57	85
Pend Oreille River	111	50	74
Rathdrum Creek	4	49	89
Hayden Lake	2	45	98
Coeur d'Alene River	10	45	69
St. Joe River	5	45	68
Spokane River	19	45	72
Palouse River	2	37	60

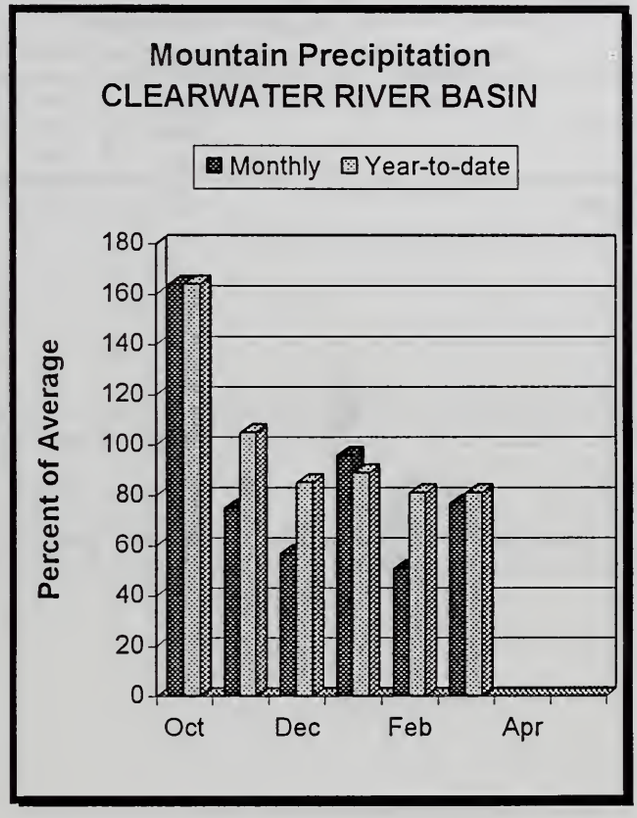
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN
APRIL 1, 1998





WATER SUPPLY OUTLOOK

Precipitation in March was 77% of average and has been below normal since October 1996. Consequently, snowpack percentages decreased about 5 percentage points from last month in the Clearwater basin and are currently the lowest in the state along with the Coeur d'Alene and St. Joe's snowpack at 68% of average. Snowpacks range from 66% of average in the North Fork Clearwater River basin to 73% in the Selway River basin. Lost Lake snow measuring station, located at 6,110 feet near the North Fork Clearwater and St. Joe watershed divide, has 41.3 inches of snow water; average for April 1 is 63.2 inches. This is quite a contrast from last year when there were 97.9 inches of snow water and nearly 18 feet of snow. Dworshak Reservoir is 74% of capacity and releases are set at the minimum of 1,300 cfs. The reservoir should fill or come close to filling depending upon timing of inflows and outflows. As a result of the below normal precipitation last month, streamflow forecasts also decreased and currently range from 65-73% of average. Runoff volumes will be below normal, but should be adequate for water users and recreational opportunities this summer. Duration of the high water season will be much shorter than last year, but the potential still exists for high peak flows and depends on spring precipitation and air temperatures.

CLEARWATER RIVER BASIN
Streamflow Forecasts - April 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DWORSHAK RESV INFLOW (1,2)	APR-JUL	1282	1604	1750	65	1896	2218	2692
	APR-SEP	1374	1715	1870	65	2025	2366	2866
CLEARWATER at Orofino (1)	APR-JUL	2161	3034	3430	73	3826	4699	4718
	APR-SEP	2289	3211	3630	73	4049	4971	4976
CLEARWATER at Spalding (1,2)	APR-JUL	3662	4885	5440	71	5995	7218	7618
	APR-SEP	3888	5182	5770	72	6358	7652	8052

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2575.8	1466.2	1996.2

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - April 1, 1998

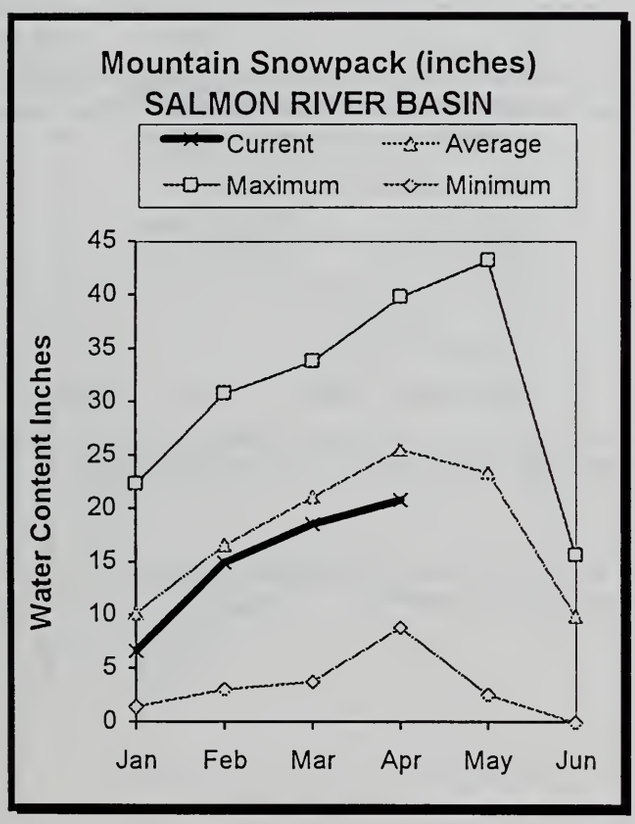
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	12	43	66
Lochsa River	4	47	69
Selway River	7	49	73
Clearwater Basin Total	21	45	68

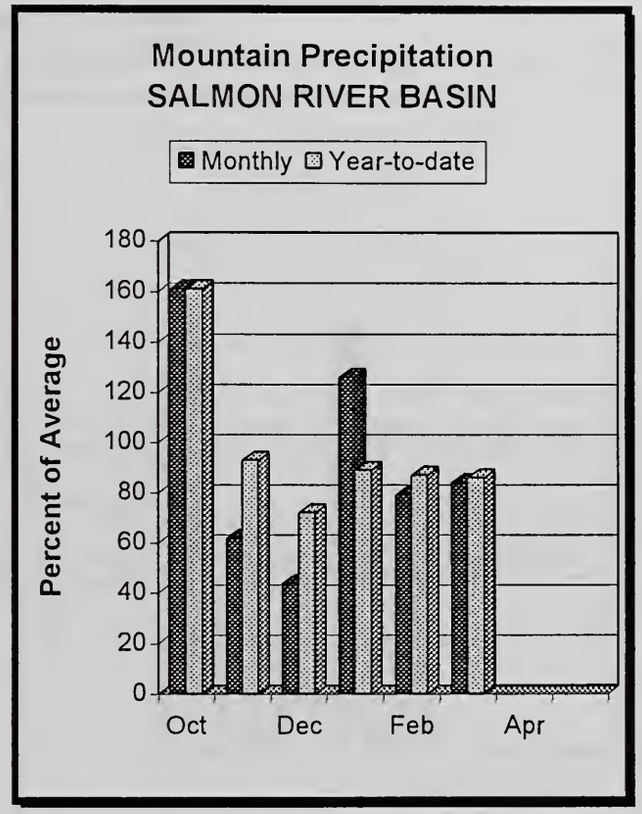
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN
APRIL 1, 1998





WATER SUPPLY OUTLOOK

Mountain precipitation in the Salmon River basin was 84% of average. Water year to date precipitation is 86% of average. Snowpacks did not increase at their normal rate during March because of the below normal precipitation and now stand at 80% of average for the basin as a whole. Sub-basins range from a low of 78% of average on the Middle Fork Salmon River to 83% on the Little Salmon River. Streamflow projections call for 84% of average for the Salmon River at Salmon and 89% for Salmon River at White Bird. River runners and water users can expect much lower volumes than last year. High peak flows are possible, but the duration of high water will be much shorter than last year.

SALMON RIVER BASIN
Streamflow Forecasts - April 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	APR-JUL	419	633	730	84	827	1041	869
	APR-SEP	492	742	855	84	968	1218	1019
SALMON at White Bird (1)	APR-JUL	3930	4886	5320	89	5754	6710	5956
	APR-SEP	4359	5419	5900	89	6381	7441	6602

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - April 1, 1998

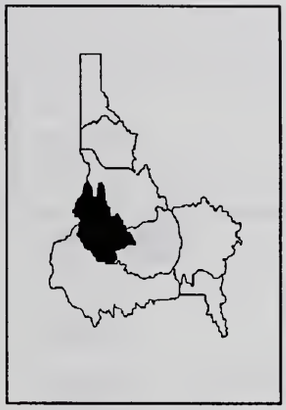
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	10	54	79
Lemhi River	8	64	81
Middle Fork Salmon River	3	57	78
South Fork Salmon River	3	61	82
Little Salmon River	4	66	83
Salmon Basin Total	30	58	80

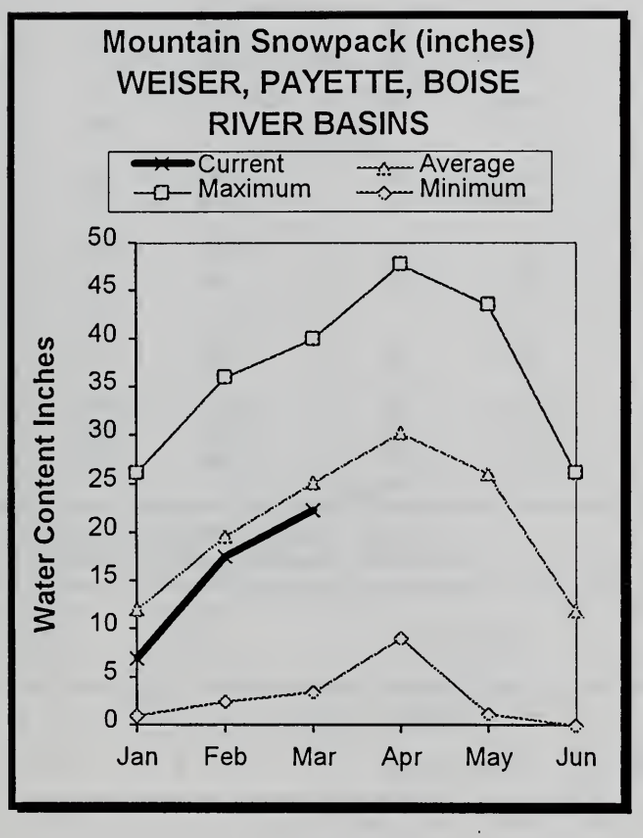
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

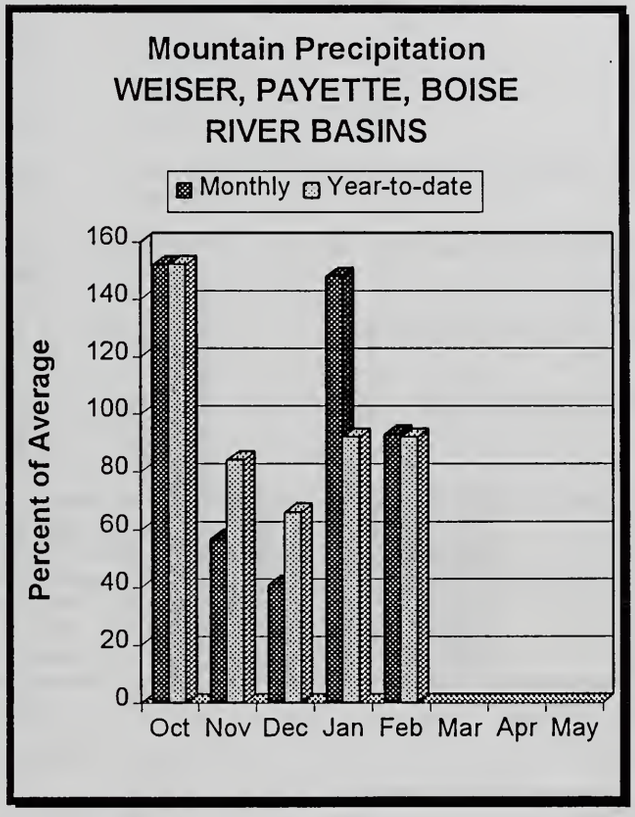
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS
APRIL 1, 1998







WATER SUPPLY OUTLOOK

March precipitation varied across these central Idaho basins and ranged from three-quarters of average in the Boise basin to near average in the Weiser and Payette basins. Warm temperatures in mid-March brought rain up to 8,000 feet in elevation and a small rise in streamflow until cooler temperatures returned. Mid-elevation snowpacks are ripe and ready to start melting. Snowpacks are 88% of average in the Boise, 86% in the Payette and 91% in the Weiser basins. Reservoir storage is in good shape at 80% of capacity for the Boise and Payette systems. Streamflow forecasts are below normal at 78-90% of average for these west-central Idaho streams. Water supplies will be adequate for agricultural users and will provide excellent recreational opportunities in the valley. River runners will be able to put on the river much sooner than last year due to a shorter high water season.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - April 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WEISER nr Weiser (1)	APR-JUL	160	280	335	87	390	510	386
	APR-SEP	173	302	360	87	418	547	415
SF PAYETTE at Lowman	APR-JUL	301	337	361	84	385	421	432
	APR-SEP	343	384	411	84	438	479	488
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	101	117	124	92	131	147	135
	APR-SEP	105	122	129	90	136	153	143
NF PAYETTE nr Cascade (1,2)	APR-JUL	337	417	453	91	489	569	496
	APR-SEP	359	446	485	91	524	611	533
NF PAYETTE nr Banks (2)	APR-JUL	459	535	586	90	637	713	648
	APR-SEP	487	570	626	91	682	765	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1122	1330	1425	88	1520	1728	1618
	APR-SEP	1225	1456	1560	89	1664	1895	1755
BOISE near Twin Springs (1)	APR-JUL	444	513	545	86	577	646	631
	APR-SEP	474	550	584	85	618	694	686
SF BOISE at Anderson Rnch Dm (1,2)	APR-JUL	341	399	425	78	451	509	544
	APR-SEP	369	430	458	79	486	547	582
MORES CK nr Arrowrock Dam	APR-JUL	95	110	121	94	132	147	129
	APR-SEP	98	114	125	93	136	152	134
BOISE nr Boise (1,2)	APR-JUN	875	990	1042	82	1094	1209	1264
	APR-JUL	948	1099	1168	82	1237	1388	1421
	APR-SEP	1032	1194	1267	83	1340	1502	1535

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	10.0	10.0	8.7
CASCADE	703.2	566.6	310.8	377.6
DEADWOOD	161.9	129.4	60.2	90.8
ANDERSON RANCH	464.2	369.6	152.6	278.1
ARROWROCK	286.6	275.2	62.1	227.8
LUCKY PEAK	293.2	192.3	131.9	153.2
LAKE LOWELL (DEER FLAT)	177.1	122.8	123.7	152.9

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - April 1, 1998

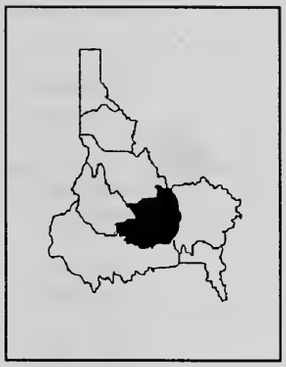
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	2	106	100
Weiser River	5	86	91
North Fork Payette	8	68	87
South Fork Payette	5	62	80
Payette Basin Total	14	67	86
Middle & North Fork Boise	7	57	83
South Fork Boise River	9	64	88
Mores Creek	5	66	95
Boise Basin Total	17	64	88
Canyon Creek	2	163	100

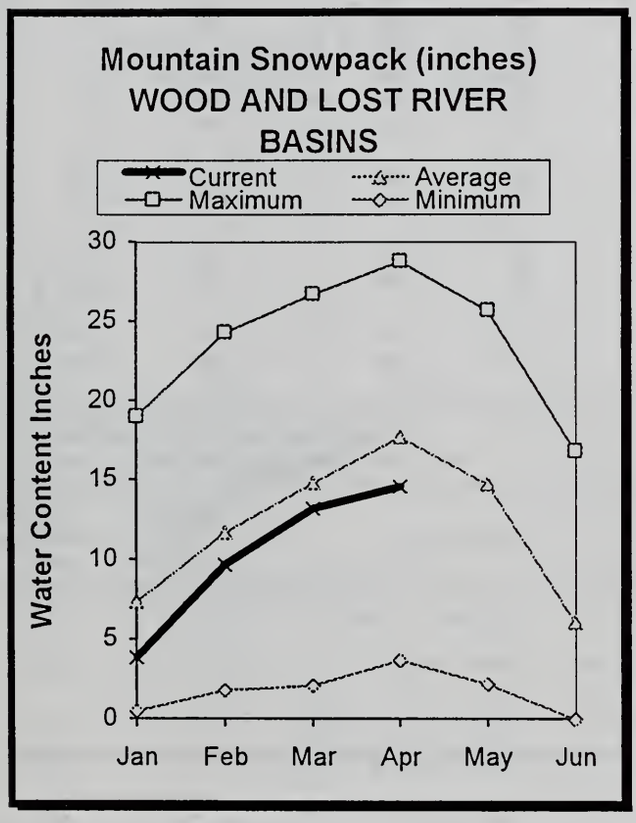
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

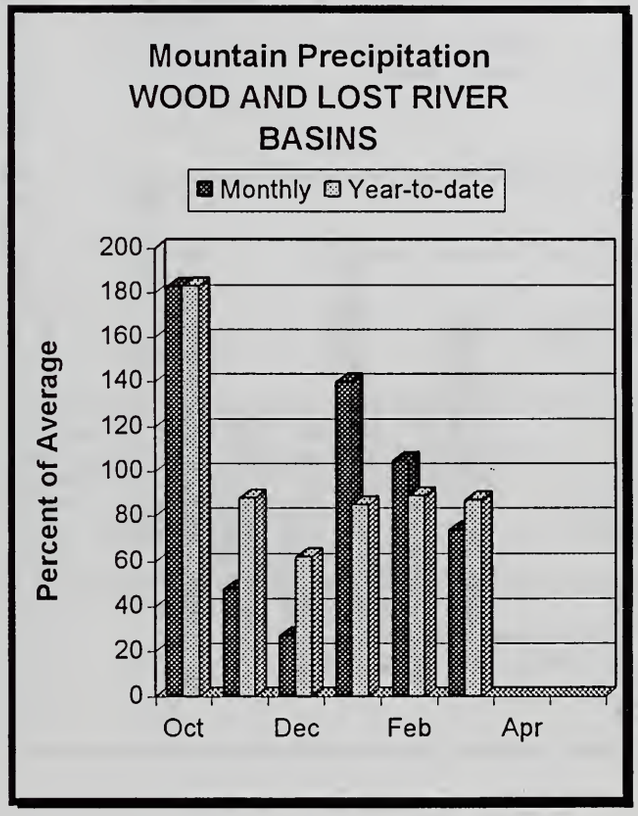
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS
APRIL 1, 1998







WATER SUPPLY OUTLOOK

Mountain precipitation was about three-quarters of average in March, the lowest in the state. As a result of the below normal precipitation, snowpack percentages also decreased this month by about 5-15 percentage points in these central Idaho streams. Warm temperatures and rain started melting the lower elevation snowpack and brought a small rise in streams in late March. High elevation snowpacks have not started melting yet. Snowpacks are 87% of average in the Big Wood, 84% in the Big Lost basins, 92% in the Little Wood basin and 76% in the Little Lost basins. Reservoir storage ranges from 69-89% of capacity in Little Wood, Mackay and Magic reservoirs. Streamflow forecasts decreased slightly from last month and call for 62-89% of average runoff for these central Idaho streams. Water supplies should be adequate in the Big Wood and Little Wood river basins but could be tight in the Big Lost and Little Lost river basins if actual runoff volumes are below the Most Probable Forecast and in the 90% or 70% Chance of Exceeding Forecast range.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - April 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD at Hailey (1)	APR-JUL	136	169	186	73	203	244	255
	APR-SEP	152	191	210	73	230	277	289
BIG WOOD near Bellevue	APR-JUL	79	99	114	62	130	155	183
	APR-SEP	86	107	122	62	139	165	197
CAMAS CREEK near Blaine	APR-JUL	61	71	79	78	87	99	102
	APR-SEP	61	71	79	77	87	100	103
BIG WOOD below Magic Dam (2)	APR-JUL	142	174	195	66	216	248	295
	APR-SEP	139	174	197	64	220	255	310
LITTLE WOOD near Carey (2)	APR-JUL	59	71	80	87	89	101	92
	APR-SEP	61	75	84	85	93	107	99
BIG LOST at Howell Ranch	APR-JUN	90	107	118	84	129	146	141
	APR-JUL	114	137	152	84	167	190	181
	APR-SEP	130	155	173	84	191	216	206
BIG LOST below Mackay Reservoir (2)	APR-JUL	90	113	129	84	145	168	153
	APR-SEP	109	135	153	83	171	197	184
LITTLE LOST blw Wet Creek	APR-JUL	20	24	27	88	30	34	31
	APR-SEP	25	31	35	89	39	44	39
LITTLE LOST nr Howe	APR-JUL	23	26	28	86	31	34	33
	APR-SEP	30	34	37	86	40	44	43

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	170.5	123.0	117.4
LITTLE WOOD	30.0	20.7	7.4	18.4
MACKAY	44.4	38.2	15.7	33.3

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - April 1, 1998

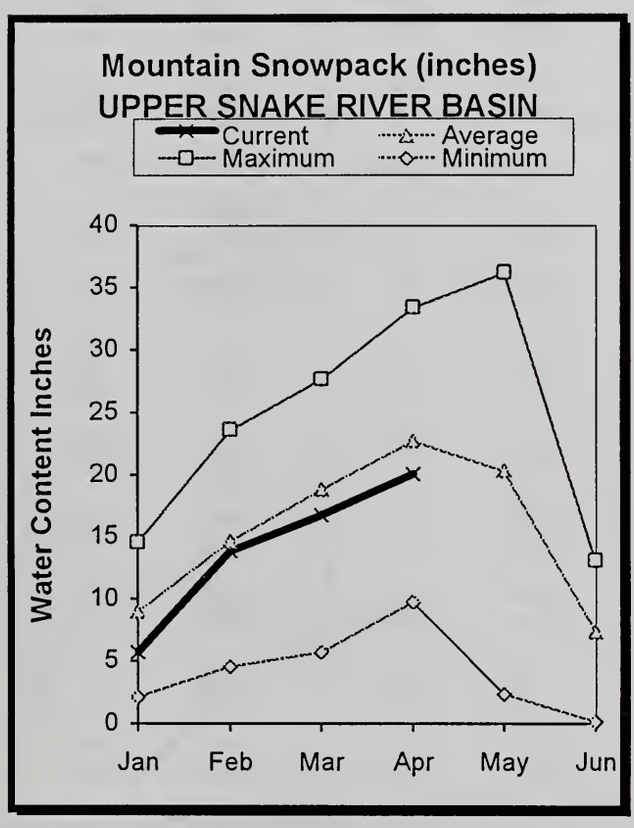
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Magic	8	56	84
Camas Creek	5	82	96
Big Wood Basin Total	13	61	87
Little Wood River	4	64	92
Fish Creek	3	63	74
Big Lost River	7	56	84
Little Lost River	4	58	76

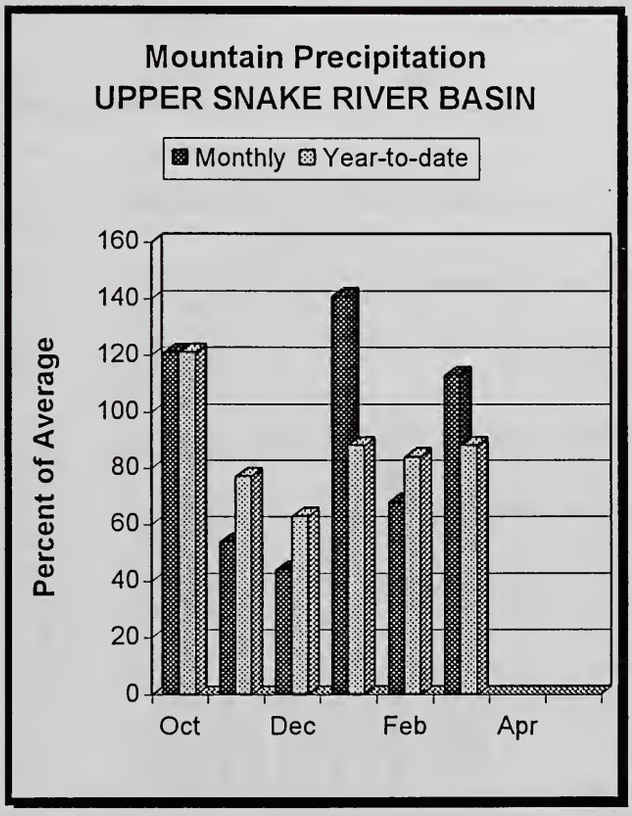
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER SNAKE RIVER BASIN
APRIL 1, 1998





WATER SUPPLY OUTLOOK

Warm temperatures brought rain up to 8,000 feet in elevation the latter half of March before turning to snow by the end of the month. March precipitation was 113% of average, the highest in the state. Mid-elevation snow measuring sites basically maintained the same snow water content levels as the previous month, while higher elevations continued increasing in water content levels. The snowpack ranges from 85-95% of average across most of the basins in the upper Snake River watershed. Snow water content levels are about 50-60% of last year's snowpack. Reservoir storage is 82% of capacity for the 8 major reservoirs in this area. Streamflow forecasts range from 90-110% of average for these streams. Snake River water users will have an adequate water supply. Precipitation and air temperatures will determine the magnitude of peak flows this spring, but the duration of high water will be much shorter than last year.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - April 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK near Ashton (2)	APR-JUL	454	499	530	97	561	606	544
	APR-SEP	598	653	690	95	727	782	730
HENRYS FORK near Rexburg (2)	APR-JUL	949	1087	1180	96	1273	1411	1228
	APR-SEP	1196	1353	1460	94	1567	1724	1551
FALLS near Squirrel (1,2)	APR-JUL	258	304	325	89	346	392	364
	APR-SEP	317	363	384	89	405	451	432
TETON near Driggs	APR-JUL	125	145	159	105	173	193	152
	APR-SEP	164	189	206	104	223	248	199
TETON near St. Anthony	APR-JUL	306	354	386	102	418	466	377
	APR-SEP	375	429	466	102	503	557	457
SNAKE near Moran (1,2)	APR-SEP	684	781	825	95	869	966	869
SNAKE above Palisades (2)	APR-JUL	2000	2132	2222	96	2312	2444	2311
	APR-SEP	2314	2475	2585	97	2695	2856	2671
GREYS above Palisades	APR-JUL	268	297	316	95	335	364	333
	APR-SEP	321	353	375	97	397	429	388
SALT near Etna	APR-JUL	250	290	317	99	344	384	319
	APR-SEP	317	364	395	99	426	473	399
PALISADES RESERVOIR INFLOW (1,2)	APR-JUL	2638	2963	3110	96	3257	3582	3226
	APR-SEP	3019	3391	3560	95	3729	4101	3763
SNAKE near Heise (2)	APR-JUL	2876	3116	3280	95	3444	3684	3451
	APR-SEP	3320	3600	3790	94	3980	4260	4049
SNAKE nr Blackfoot (1,2)	APR-JUL	3313	3978	4280	96	4582	5247	4444
	APR-SEP	4192	4926	5260	96	5594	6328	5482
PORTNEUF at Topaz	APR-JUL	65	73	79	110	85	93	72
	APR-SEP	84	93	100	108	107	116	93
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	1742	2483	2820	92	3157	3898	3066
	APR-SEP	1765	2642	3040	92	3438	4315	3303

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	87.7	78.8	80.1
ISLAND PARK	135.2	114.3	103.8	119.3
GRASSY LAKE	15.2	7.6	13.4	11.2
JACKSON LAKE	847.0	648.6	552.3	473.2
PALISADES	1400.0	983.3	397.0	1013.5
RIRIE	80.5	50.4	47.2	44.3
BLACKFOOT	348.7	281.1	207.3	260.7
AMERICAN FALLS	1672.6	1573.4	1155.5	1452.5

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - April 1, 1998

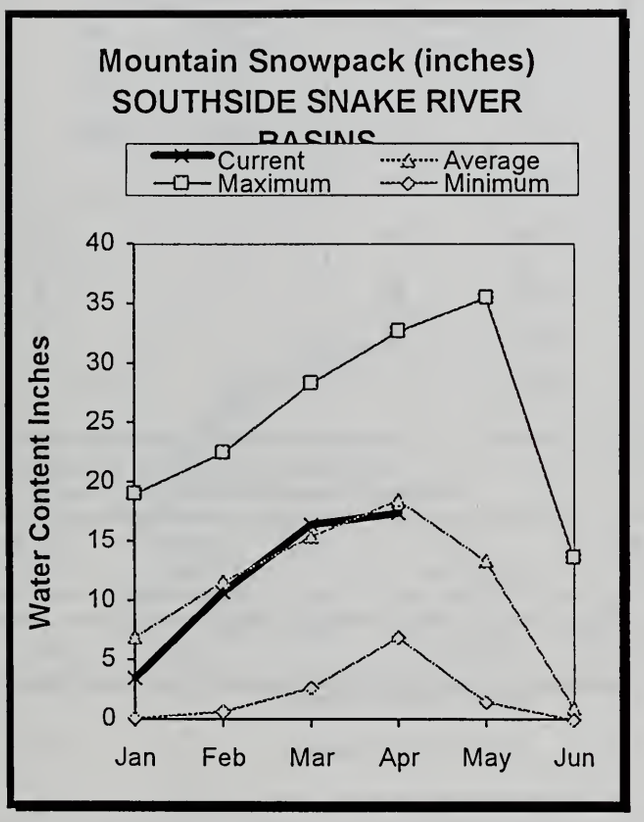
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Camas-Beaver Creeks	4	77	80
Henrys Fork River	12	57	86
Teton River	8	61	91
Snake above Jackson Lake	12	59	88
Gros Ventre River	3	48	92
Hoback River	6	57	84
Greys River	4	64	88
Salt River	5	71	93
Snake above Palisades	30	60	90
Willow Creek	7	69	101
Blackfoot River	5	69	87
Portneuf River	6	78	107
Snake abv American Falls	45	63	92

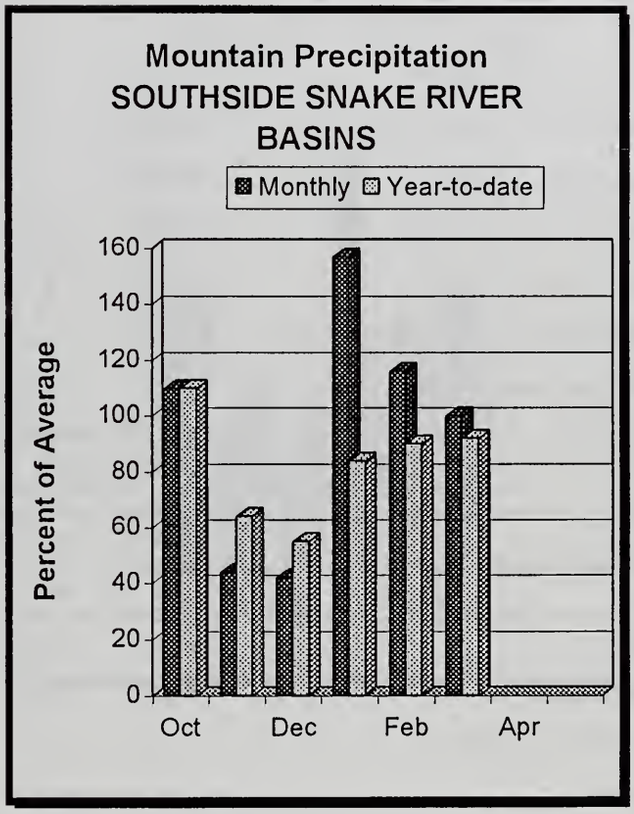
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS APRIL 1, 1998





WATER SUPPLY OUTLOOK

Warm and dry weather in mid-March allowed farmers to start planting grains and working their fields; however, a late March storm brought snow and rain in the valleys making it difficult for farmers to finish their planting and field work. March precipitation was 100% of average and is 92% for the water year. Most snow measuring stations showed a net increase in snow water content with the exception of the lower elevation sites in the Owhyee basin. Currently, snowpacks are 86% in the Owyhee basin, 89% in the Bruneau, 86% in the Salmon Falls basin, and 109% in Goose-Trapper creeks. Streamflow forecasts are below normal and range from 70-87% of average. Owyhee and Wildhorse reservoirs are projected to fill while Oakley and Salmon Falls reservoirs are not expected to fill. Reservoir water users can expect an adequate supply, while instream users will see below normal volumes this summer. River runners should have an adequate whitewater season on these high desert streams; the Owhyee River peaked once in late March at over 9,000 cfs and has enough snow for another peak.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - April 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
OAKLEY RESV INFLOW	APR-JUL	15.1	19.4	23	82	26	32	28
	APR-SEP	17.1	22	25	82	29	35	31
SALMON FALLS CREEK nr San Jacinto	APR-JUN	35	46	55	74	65	80	75
	APR-JUL	37	50	59	74	69	86	80
	APR-SEP	40	52	62	74	72	89	84
BRUNEAU near Hot Springs	APR-JUL	109	144	170	81	198	244	209
	APR-SEP	112	148	175	79	204	252	221
OWYHEE near Gold Creek (2)	APR-JUL	8.6	13.7	17.8	71	22	30	25
OWYHEE nr Owyhee (2)	APR-JUL	26	46	60	70	74	94	86
OWYHEE near Rome	APR-JUL	165	224	270	72	320	401	377
OWYHEE RESV INFLOW (2)	APR-JUL	160	214	255	65	300	372	390
SUCCOR CK nr Jordan Valley	APR-JUL	1.47	5.27	7.85	82	10.43	14.23	9.60
SNAKE RIVER at King Hill (1,2)	APR-JUL			2530	87			2896
SNAKE RIVER near Murphy (1,2)	APR-JUL			2590	87			2980
SNAKE RIVER at Weiser (1,2)	APR-JUL			4520	83			5465
SNAKE RIVER at Hells Canyon Dam (1,2	APR-JUL			5000	82			6129
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	12484	15865	17400	80	18935	22316	21650

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	77.4	46.8	37.7	34.0
SALMON FALLS	182.6	83.6	76.1	62.3
WILDHORSE RESERVOIR	71.5	61.1	67.5	38.2
OWYHEE	715.0	558.9	682.7	579.0
BROWNLEE	1419.3	1242.8	665.8	893.1

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - April 1, 1998

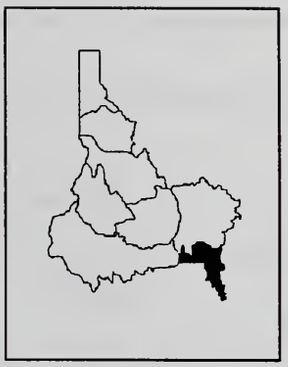
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	5	86	119
Goose-Trapper Creeks	6	81	109
Salmon Falls Creek	6	72	87
Bruneau River	8	82	89
Owyhee Basin Total	20	93	86

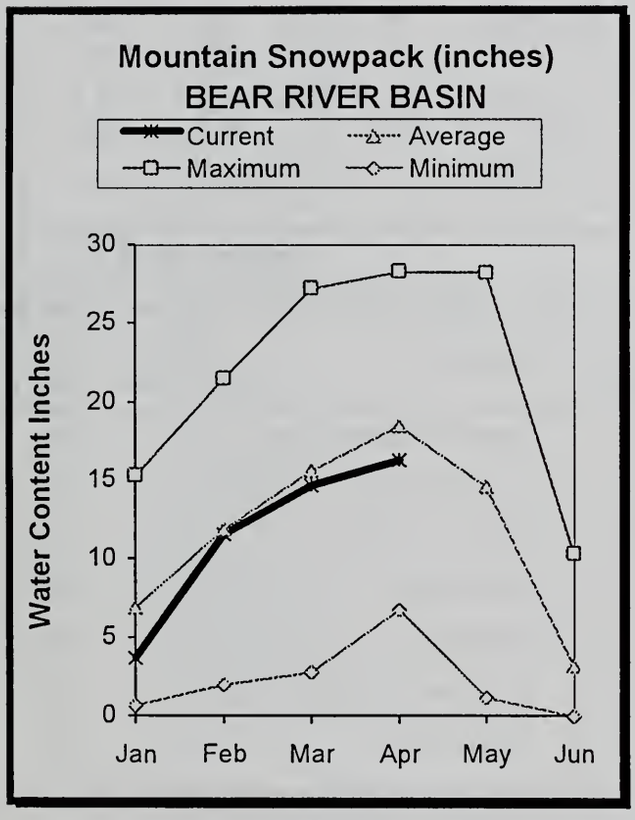
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

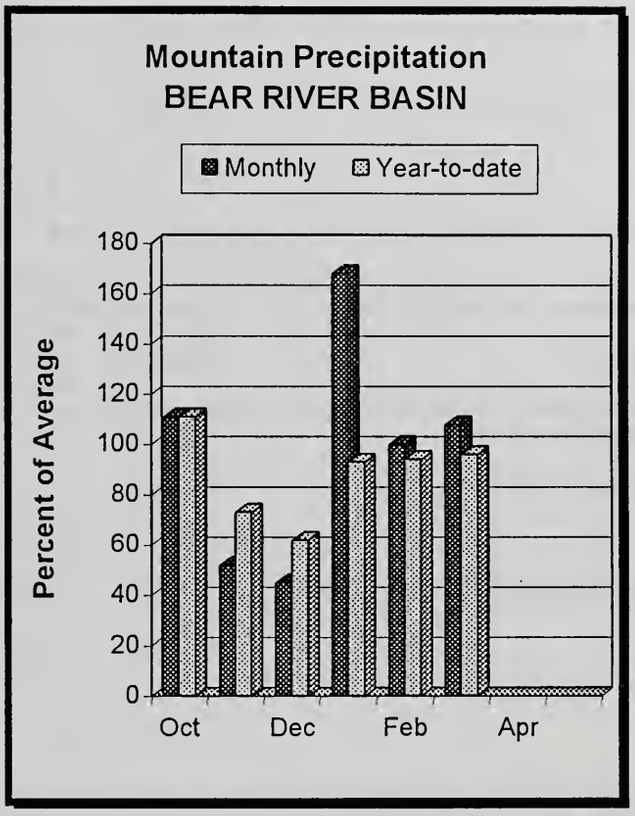
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

BEAR RIVER BASIN
APRIL 1, 1998







WATER SUPPLY OUTLOOK

Near normal precipitation fell in the Bear River basin for the third consecutive month. Precipitation for the water year is 96% of average, the highest in the state. Snow percentages are 103% of average in the Malad basin, 83% in Montpelier Creek, and 88% for the Bear River basin as a whole. Montpelier Creek Reservoir is 70% full and passing inflow; Bear Lake is 76% full and should fill. Streamflow forecasts call for 92% of average for the Cub River and 73% for the Bear River below Stewart Dam. With a near normal snowpack, water supplies will be adequate for the diverse water users in this basin.

BEAR RIVER BASIN
Streamflow Forecasts - April 1, 1998

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BEAR R nr Randolph, UT	APR-JUL	35	74	100	85	126	165	118
	APR-SEP	35	79	108	85	137	181	127
SMITHS FK nr Border, WY	APR-JUL	62	75	85	83	96	116	102
	APR-SEP	75	89	100	85	113	134	118
THOMAS FK nr WY-ID State Line	APR-JUL	15.3	21	25	76	31	41	33
	APR-SEP	16.8	22	27	75	33	44	36
BEAR R blw Stewart Dam nr Montpelier	APR-JUL	118	173	210	73	247	302	288
	APR-SEP	135	197	240	73	283	345	327
MONTPELIER CK nr Montpelier (2)	APR-JUL	6.3	7.9	9.2	75	10.7	13.5	12.2
	APR-SEP	7.5	9.2	10.6	75	12.2	15.0	14.2
CUB R nr Preston	APR-JUL	34	39	43	92	47	52	47

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of March

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
WOODRUFF NARROWS	57.3	46.0	57.3	---
WOODRUFF CREEK	4.0	4.0	4.0	---
BEAR LAKE	1421.0	1078.6	945.3	1002.1
MONTPELIER CREEK	4.0	2.8	1.6	1.6

BEAR RIVER BASIN
Watershed Snowpack Analysis - April 1, 1998

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	3	68	92
Bear River ab WY-ID line	10	70	89
Montpelier Creek	2	62	83
Mink Creek	4	70	98
Cub River	3	68	103
Bear River ab ID-UT line	22	69	93
Malad River	3	81	103

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List For All Forecasts Published In Idaho Basin Outlook Report Streamflow forecasts are projections of runoff volumes that would have occurred naturally without influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and interbasin transfers are added or subtracted from the observed (actual) streamflow
volumes. The following list documents the adjustments made to each forecast point in this report.

Panhandle River Basins

KOOTENAI R AT LEONIA, ID
+ LAKE KOOCANUSA (STORAGE CHANGE)
CLARK FORK AT WHITEHORSE RAPIDS, ID
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS RESV (STORAGE CHANGE)
PEND OREILLE LAKE INFLOW, ID
+ PEND OREILLE R AT NEWPORT, WA
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS (STORAGE CHANGE
+ PEND OREILLE LAKE (STORAGE CHANGE)
PRIEST R NR PRIEST R, ID
+ PRIEST LAKE (STORAGE CHANGE)
COEUR D'ALENE R AT ENAVILLE, ID - No Corrections
ST. JOE R AT CALDER, ID - No Corrections
SPOKANE R NR POST FALLS, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
+ RATHDRUM PRAIRIE CANAL AT HEUTTER, ID

Clearwater River Basin

DWORSHAK RESERVOIR INFLOW, ID
+ DWORSHAK RESV (STORAGE CHANGE)
- CLEARWATER R AT OROFINO, ID
+ CLEARWATER R NR PECK, ID
CLEARWATER R AT OROFINO, ID - No Corrections
CLEARWATER R AT SPALDING, ID
+ DWORSHAK RESV (STORAGE CHANGE)

Salmon River Basin

SALMON R AT SALMON, ID - No Corrections
SALMON R AT WHITE BIRD, ID - No Corrections

Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections
SF PAYETTE R AT LOWMAN, ID - No Corrections
DEADWOOD RESERVOIR INFLOW, ID
+ DEADWOOD R BLW DEADWOOD RESV NR LOWMAN
+ DEADWOOD RESV (STORAGE CHANGE)
NF PAYETTE R AT CASCADE, ID
+ CASCADE RESV (STORAGE CHANGE)
NF PAYETTE R NR BANKS, ID
+ CASCADE RESV (STORAGE CHANGE)
PAYETTE R NR HORSESHOE BEND, ID
+ DEADWOOD RESV (STORAGE CHANGE)
+ CASCADE RESV (STORAGE CHANGE)
BOISE R NR TWIN SPRINGS, ID - No Corrections
SF BOISE R AT ANDERSON RANCH DAM, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
BOISE R NR BOISE, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
+ ARROWROCK RESV (STORAGE CHANGE)
+ LUCKY PEAK RESV (STORAGE CHANGE)

Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections
BIG WOOD R NR BELLEVUE, ID - No Corrections
BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID
+ MAGIC RESV (STORAGE CHANGE)
LITTLE WOOD R NR CAREY, ID
+ LITTLE WOOD RESV (STORAGE CHANGE)
BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections
BIG LOST R BLW MACKAY RESV NR MACKAY, ID
+ MACKAY RESV (STORAGE CHANGE)
LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections
LITTLE LOST R NR HOWE, ID (Disc) - No Corrections
LITTLE LOST R NR HOWE, ID (Disc) - No Corrections

Upper Snake River Basin

HENRYS FORK NR ASHTON, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
HENRYS FORK NR REXBURG, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
+ DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID
+ DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID
+ GRASSY LAKE (STORAGE CHANGE)
FALLS R ABV YELLOWSTONE CANAL NR SQUIRREL, ID
+ GRASSY LAKE (STORAGE CHANGE)
TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections
TETON R NR ST. ANTHONY, ID
- CROSS CUT CANAL
+ SUM OF DIVERSIONS ABV GAGE
SNAKE R NR MORAN, WY
+ JACKSON LAKE (STORAGE CHANGE)
PALISADES RESERVOIR INFLOW, ID
+ SNAKE R NR IRWIN, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)
SNAKE R NR HEISE, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)
SNAKE R NR BLACKFOOT, ID
+ PALISADES RESV (STORAGE CHANGE)
+ JACKSON LAKE (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT, ID
PORTNEUF R AT TOPAZ, ID - No Corrections
AMERICAN FALLS RESERVOIR INFLOW, ID
+ ALL CORRECT MADE FOR HENRYS FK NR REXBURG, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)
+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES
+ DIV FM SNAKE R BTW SHELLY AND BLACKFT GAGES

Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID
+ GOOSE CK ABV TRAPPER CK NR OAKLEY, ID
+ TRAPPER CK NR OAKLEY, ID
SALMON FALLS CK NR SAN JACINTO, NV - No Corrections
BRUNEAU R NR HOT SPRINGS, ID - No Corrections
OWYHEE R NR GOLD CK, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR OWYHEE, NV
+ WILDHORSE RESV (STORAGE CHANGE)
OWYHEE R NR ROME, OR
+ WILDHORSE RESV (STORAGE CHANGE)
+ JORDAN VALLEY RESV (STORAGE CHANGE)
OWYHEE RESERVOIR INFLOW, OR
+ OWYHEE R BLW OWYHEE DAM, OR
+ OWYHEE RESV (STORAGE CHANGE)
+ DIV TO NORTH AND SOUTH CANALS
SUCCOR CK NR JORDAN VALLEY, OR - No Corrections
SNAKE R - KING HILL, ID - No Corrections
SNAKE R NR MURPHY, ID - No Corrections
SNAKE R AT WEISER, ID - No Corrections
SNAKE R AT HELLS CANYON DAM, ID
+ BROWNLEE RESV (STORAGE CHANGE)

Bear River Basin

BEAR R NR RANDOLPH, UT
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
SMITHS FORK NR BORDER, WY - No Corrections
THOMAS FORK NR WY-ID STATELINE - No Corrections
BEAR R AT HARER, ID (Disc.)
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
BEAR R BLW STEWART DAM, ID
+ SULPHUR CK RESV (STORAGE CHANGE)
+ CHAPMAN CANAL DIVERSION
+ WOODRUFF NARROWS RESV (STORAGE CHANGE)
+ DINGLE INLET CANAL
+ RAINBOW INLET CANAL
MONTPELIER CK AT IRR WEIR NR MONTPELIER, ID
+ MONTPELIER CK RESV (STORAGE CHANGE)
CUB R NR PRESTON, ID - No Corrections

RESERVOIR CAPACITY DEFINITIONS

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. The table below lists these volumes for each reservoir in this report, and defines the storage volumes that NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage.

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	NRCS CAPACITY	NRCS FIGURES INCLUDE
PANHANDLE REGION						
HUNGRY HORSE	39.73	--	3451.00	--	3451.0	ACTIVE
FLATHEAD LAKE	Unknown	--	1791.00	--	1971.0	ACTIVE
NOXON RAPIDS	Unknown	--	335.00	--	335.0	ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3	DEAD+INACTIVE+ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5	INACTIVE+ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3	DEAD+INACTIVE+ACTIVE
CLEARWATER BASIN						
DWORSHAK	--	1452.00	2016.00	--	3468.0	INACTIVE+ACTIVE
WEISER/BOISE/PAYETTE BASINS						
MANN CREEK	1.61	0.24	11.10	--	11.1	ACTIVE
CASCADE	--	50.00	653.20	--	703.2	INACTIVE+ACTIVE
DEADWOOD	1.50	--	161.90	--	161.9	ACTIVE
ANDERSON RANCH	29.00	41.00	423.18	--	464.2	INACTIVE+ACTIVE
ARROWROCK	--	--	286.60	--	286.6	ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2	INACTIVE+ACTIVE
LAKE LOWELL	--	8.00	169.10	--	177.1	INACTIVE+ACTIVE
WOOD/LOST BASINS						
MAGIC	--	--	191.50	--	191.5	ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0	ACTIVE
MACKAY	0.13	--	44.37	--	44.4	ACTIVE
UPPER SNAKE BASIN						
HENRYS LAKE	--	--	90.40	--	90.4	ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2	ACTIVE+SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2	ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0	ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0	DEAD+INACTIVE+ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5	ACTIVE
BLACKFOOT	--	--	348.73	--	348.7	ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6	ACTIVE
SOUTHSIDE SNAKE BASINS						
OAKLEY	--	--	77.40	--	77.4	ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6	ACTIVE
WILDHORSE	--	--	71.50	--	71.5	ACTIVE
OWYHEE	406.83	--	715.00	--	715.0	ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3	INACTIVE+ACTIVE
BEAR RIVER BASIN						
WOODRUFF NARROWS	--	1.50	57.30	--	57.3	ACTIVE
WOODRUFF CREEK	--	4.00	4.00	--	4.0	ACTIVE
BEAR LAKE	--	--	1421.00	--	1421.0	ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.0	DEAD+ACTIVE

Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflows are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast: it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value. There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value. There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include.

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River newa Deeth between March 1 and July 31.

Using the Higher Exceedance Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they detrmine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater that 36,000 acre-feet was more than they would like to risk, they might plan on receiveing 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

UPPER HUMBOLDT RIVER BASIN

STREAMFLOW FORECASTS

FORECAST POINT	FORECAST PERIOD	FUTURE CONDITIONS — DRIER				WETTER		
		Chance of Exceeding						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG)	30% (1000AF)	10% (1000AF)	25 YR (1000AF)
MARY'S RIVER	MAR-JUL	5 0	20 0	36	77	52	76	47
nr Deeth	APR-JUL	8 0	17 0	31	74	45	67	42
LAMOILLE CREEK	MAR-JUL	6 0	16 0	24	79	32	43	31
nr Lamoille	APR-JUL	4 0	15 0	22	75	30	41	30
NR HUMBOLDT RIVER at Devils Gate	MAR-JUL	6 0	12 0	43	73	74	121	59

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A Field Office Guide for Interpreting Streamflow Forecasts"

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